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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/646,527	08/22/2003	Kenneth S. Collins	6915 P07	8502

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EXAMINER	
ARANCIBIA, MAUREEN GRAMAGLIA	
ART UNIT	**PAPER NUMBER**
1763	

DATE MAILED: 01/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/646,527	COLLINS ET AL.	
	Examiner	Art Unit	
	Maureen G. Arancibia	1763	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 October 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-23* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-23* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *9/03;11/03;4/04*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☒ Other: *IDS 5/04;3/05;5/05;11/05*.

DETAILED ACTION

Election/Restrictions

1. Applicant's arguments submitted 21 October 2005 in traverse of the restriction requirement mailed 2 September 2005 are persuasive. Specifically, it appears that all the currently pending claims are generic to the various embodiments of Figure 99. (Specification, Page 103, Lines 12-15) **Therefore, the previous restriction requirement is withdrawn.** However, a restriction requirement may be considered in the future.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 1-4, 6-13, 18, 22, and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,321,134 to Henley et al. (from Applicant's IDS) in view of U.S. Patent 6,432,260 to Mahoney et al.

In regards to Claim 1, Henley et al. teaches a system for processing a workpiece, comprising: (A) a plasma immersion ion implantation (PIII) reactor (Figure 4), comprising: an enclosure 422 comprising a side wall and a ceiling and defining a chamber 414; a workpiece support pedestal 465 within the chamber having a workpiece support surface facing said ceiling and defining a process region extending generally across said wafer support pedestal; an inductively coupled source power applicator 440; and an RF plasma source power generator 466 coupled to said inductively coupled source power applicator for inductively coupling RF source power into said process zone; (B) a second wafer processing apparatus (Column 4, Lines 18-40; Column 6, Lines 18-27); and (C) a wafer transfer apparatus 20 for transferring said workpiece between said plasma immersion ion implantation reactor and said second wafer processing apparatus. (Figures 1 and 3)

In regards to Claims 1 and 13, Henley et al. does not teach a gas distribution apparatus or a hollow conduit outside of the chamber having first and second ends connected to respective openings in the chamber at opposite sides of the process region, so as to provide a first reentrant path, or that the plasma comprises a plasma current in said reentrant path that oscillates at an RF frequency of the RF plasma source power applicator.

Mahoney et al. teaches a plasma reactor (Figure 1), comprising: an enclosure 2 comprising a side wall and a ceiling and defining a chamber (Figure 1); a workpiece support pedestal 17 within the chamber having a workpiece support surface facing said ceiling and defining a process region extending generally across said wafer support pedestal and confined laterally by said side wall and axially between said workpiece support pedestal and said ceiling; said enclosure having a first pair of openings at generally opposite sides of said process region (Figure 1); a first hollow conduit 1 outside of said chamber having first and second ends connected to respective ones of said first pair of openings, so as to provide a first reentrant path extending through said conduit and across said process region; a gas distribution apparatus 16 on a side wall of the reactor connected to gas supply 15 for introducing a process gas; and a first RF plasma source power applicator 10 for generating a plasma in the chamber. The plasma comprises a plasma current 13 in said reentrant path that oscillates at an RF frequency of said first RF plasma source power applicator. (Column 6, Lines 31-36)

It would have been obvious to one of ordinary skill in the art to modify the reactor taught by Henley et al. to include the gas distribution apparatus taught by Mahoney et al., and to replace the inductive plasma generating means taught by Henley et al. with the hollow conduit, power applicator, and reentrant path taught by Mahoney et al. The motivation for providing a gas distribution apparatus, as taught by Mahoney et al. (Column 6, Lines 40-46), would have been to supply working gases to the reactor to be excited by the plasma discharge. The motivation for providing the hollow conduit, power applicator, and reentrant path as taught by Mahoney et al. (Column 3, Line 1 -

Column 4, Line 14), would have been to have an inductively coupled plasma with a high coupling coefficient without making use of dielectric vacuum wall materials, with their undesirable thermal mechanical characteristics.

The gas distribution apparatus taught by the combination of Henley et al. and Mahoney et al. would be inherently capable of introducing process gas containing a first species to be ion implanted into a layer of the workpiece. Also, the plasma reactor taught by the combination of Henley et al. and Mahoney et al. would still be capable of performing plasma immersion ion implantation, based on the process settings. This rejection is based on the fact the apparatus structure taught above has the inherent capability of being used in the manner intended by the Applicant. When a rejection is based on inherency, a rejection under 35 U.S.C. 102 or U.S.C. 103 is appropriate. (See *In re Fitzgerald* 205 USPQ 594 or MPEP 2112).

In regards to Claim 2, Henley et al. teaches a cleaning species source plasma reactor 24 (Column 11, Line 60 - Column 12, Line 7), which would inherently comprise a source of cleaning species precursor gases in order to be able to generate a plasma. Henley et al. also teaches a passage (*wafer transfer chamber*; Figure 3) coupling said cleaning plasma reactor to the plasma immersion ion implantation reactor.

In regards to Claims 3 and 4, the particular type of gas used is a process limitation rather than an apparatus limitation, and the recitation of a particular type of gas does not limit an apparatus claim, see *In re Casey,* 152 USPQ 235; *In re Rishoi,* 94 USPQ 71; *In re Young,* 25 USPQ 69; *In re Dulberg,* 129 USPQ 348; *Ex parte Thibault,* 64 USPQ 666; and *Ex parte Masham,* 2 USPQ2d 1647. This rejection is based on the

fact the apparatus structure taught by Henley et al. has the inherent capability of being used in the manner intended by the Applicant. When a rejection is based on inherency, a rejection under 35 U.S.C. 102 or U.S.C. 103 is appropriate. (See *In re Fitzgerald* 205 USPQ 594 or MPEP 2112).

In regards to Claim 6, Henley et al. teaches that the processing system can comprise an ion beam implantation apparatus (Column 14, Lines 25-26).

While Henley et al. does not expressly teach that the processing system can include both the PIII apparatus and an ion beam implantation apparatus, it would have been obvious to one of ordinary skill in the art to include both of these apparatuses in the system. The motivation for doing so would have been to perform further processing on the workpiece.

Such a system would be inherently capable of implanting a second species into a layer of the workpiece. This rejection is based on the fact the apparatus structure taught above has the inherent capability of being used in the manner intended by the Applicant. When a rejection is based on inherency, a rejection under 35 U.S.C. 102 or U.S.C. 103 is appropriate. (See *In re Fitzgerald* 205 USPQ 594 or MPEP 2112).

In regards to Claim 7, the inclusion of material or article worked upon by a structure being claimed does not impart patentability to the claims. *In re Young*, 75 F.2d 966, 25 USPQ 69 (CCPA 1935) (as restated in *In re Otto*, 312 F.2d 937, 136 USPQ 458, 459 (CCPA 1963)). Also, the particular types of species to be implanted are process limitations rather than apparatus limitations, and the recitation of which does not limit an apparatus claim, see *In re Casey,* 152 USPQ 235; *In re Rishoi,* 94 USPQ

71; *In re Young,* 25 USPQ 69; *In re Dulberg,* 129 USPQ 348; *Ex parte Thibault,* 64 USPQ 666; and *Ex parte Masham,* 2 USPQ2d 1647. This rejection is based on the fact the apparatus structure taught by Henley et al. and Mahoney et al. has the inherent capability of being used in the manner intended by the Applicant. When a rejection is based on inherency, a rejection under 35 U.S.C. 102 or U.S.C. 103 is appropriate. (See *In re Fitzgerald* 205 USPQ 594 or MPEP 2112).

In regards to Claim 8, it has been held that the mere duplication of parts has no patentable significance unless a new and unexpected result is produced. *In re Harza,* 274 F.2d 669, 124 USPQ 378 (CCPA 1960). Moreover, a second PIII reactor would be capable of implanting any species into a layer of the workpiece. This rejection is based on the fact the apparatus structure taught by Henley et al. and Mahoney et al. has the inherent capability of being used in the manner intended by the Applicant. When a rejection is based on inherency, a rejection under 35 U.S.C. 102 or U.S.C. 103 is appropriate. (See *In re Fitzgerald* 205 USPQ 594 or MPEP 2112).

In regards to Claim 9, see the discussion of Claim 7.

In regards to Claim 10, Henley et al. teaches an anneal chamber 303. (Column 12, Lines 8-16)

In regards to Claim 11, the plasma etching chamber 301 taught by Henley et al. (Column 12, Lines 45-51) would be capable of stripping a photoresist. This rejection is based on the fact the apparatus structure taught by Henley et al. and Mahoney et al. has the inherent capability of being used in the manner intended by the Applicant.

When a rejection is based on inherency, a rejection under 35 U.S.C. 102 or U.S.C. 103 is appropriate. (See *In re Fitzgerald* 205 USPQ 594 or MPEP 2112).

In regards to Claim 12, Henley et al. teaches a wet clean chamber 305. (Column 17, Line 53 - Column 18, Line 12)

In regards to Claim 18, Henley et al. does not expressly teach a bias source coupled to the workpiece support.

Mahoney et al. teaches that an RF bias power generator can be coupled to the workpiece support. (Column 6, Lines 46-47)

It would have been obvious to one of ordinary skill in the art to modify the apparatus taught by Henley et al. to include an RF bias power generator, as taught by Mahoney et al. The motivation for making such a modification, as taught by Mahoney et al. (Column 6, Lines 46-49), would have been that biasing is appropriate for conventional plasma processing.

In regards to Claim 23, again, it has been held that the mere duplication of parts has no patentable significance unless a new and unexpected result is produced. *In re Harza*, 274 F.2d 669, 124 USPQ 378 (CCPA 1960).

In regards to Claim 24, Henley et al. teaches wafer handling apparatus 20.

5. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Henley et al. in view of Mahoney et al. as applied to Claim 1 above, and further in view of U.S. Patent 6,643,557 to Miller et al.

The teachings of Henley et al. and Mahoney et al. were discussed above. Henley et al. additionally teaches a process controller 31.

The combination of Henley et al. and Mahoney et al. does not expressly teach an optical metrology chamber for obtaining a measurement of ion implantation in a workpiece, and coupled to the process controller.

Miller et al. teaches an optical metrology chamber 150 (Column 4, Lines 44-48) for obtaining a measurement of ion implantation in a workpiece (Column 8, Lines 34-37) and coupled to a process controller 130.

It would have been obvious to one of ordinary skill in the art to modify the combination of Henley et al. and Mahoney et al. to include an optical metrology chamber coupled to the process controller. The motivation for doing so, as taught by Miller et al. (Column 8, Lines 36-39), would have been to allow for adjustment of ion implantation dosage on subsequent ion implantation processes.

6. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Henley et al. in view of Mahoney et al. as applied to Claim 1, and further in view of U.S. Patent 6,150,628 to Smith et al. (from Applicant's IDS).

The teachings of Henley et al. and Mahoney et al. were discussed above.

The combination of Henley et al. and Mahoney et al. discussed above does not expressly teach the limitations of Claim 14.

Mahoney et al. additionally teaches that the first hollow conduit comprises a metal material. (Column 6, Lines 15-16)

It would have been obvious to one of ordinary skill in the art to modify the combination of Henley et al. and Mahoney et al. to have the first hollow conduit

comprise metal. The motivation for making such a modification, as taught by Mahoney et al. (Column 4, Lines 20-22), would have been to use an easily cooled material.

The combination of Henley et al. and Mahoney et al. does not expressly teach an annular insulating gap in the first hollow conduit separating the hollow conduit into axial sections.

Smith et al. teaches an annular insulating gap 116 in a metallic hollow conduit 100 separating the hollow conduit into axial sections. (Figure 3)

It would have been obvious to one of ordinary skill in the art to modify the hollow conduit taught by the combination of Henley et al. and Mahoney et al. to comprise an annular insulating gap, as taught by Smith et al. The motivation for making such a modification, as taught by Smith et al. (Column 8, Lines 3-27), would have been to prevent induced current flow from forming in the wall of the hollow conduit (*the plasma chamber itself*).

7. Claims 15-17 and 19-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Henley et al. in view of Mahoney et al. as applied to Claims 1 and 18 above, and further in view of U.S. Patent 5,571,366 to Ishii et al.

The teachings of Henley et al. and Mahoney et al. were discussed above.

In regards to Claims 15 and 16, the combination of Henley et al. and Mahoney et al. does not expressly teach the claimed features of the reactor.

Ishii et al. teaches that the gap between the ceiling of a chamber and a wafer support pedestal 4 can be adjustable by use of pedestal elevating mechanism 78. (Figure 14)

It would have been obvious to one of ordinary skill in the art to modify the reactor taught by the combination of Henley et al. and Mahoney et al. to have the gap between the ceiling of a chamber and a wafer support pedestal be adjustable, as taught by Ishii et al. The motivation for making such a modification, as taught by Ishii et al. (Column 11, Lines 61-67), would have been to allow the surface to be processed to be moved to a space having an optimum plasma density distribution.

In the apparatus taught by the combination of Henley et al., Mahoney et al., and Ishii et al., the ceiling would be inherently capable of comprising a constriction of the reentrant torroidal path in the process zone for enhancement of plasma ion density, and the gap between the ceiling and the pedestal would be inherently capable of being sufficiently small so that the plasma ion density of the plasma current would be greater in the vicinity of the pedestal than elsewhere along the reentrant path, simply by adjusting the gap to be smaller. This rejection is based on the fact the apparatus structure taught above has the inherent capability of being used in the manner intended by the Applicant. When a rejection is based on inherency, a rejection under 35 U.S.C. 102 or U.S.C. 103 is appropriate. (See *In re Fitzgerald* 205 USPQ 594 or MPEP 2112).

In regards to Claim 17, the combination of Henley et al. and Mahoney et al. does not expressly teach that the workpiece support pedestal can comprise an electrostatic chuck with a thermal control apparatus for workpiece thermal control.

Ishii et al. teaches that a workpiece support pedestal 4 comprises an electrostatic chuck 12 with a thermal control apparatus 9 for workpiece thermal control. (Figure 1)

It would have been obvious to one of ordinary skill in the art to modify the workpiece support pedestal taught by the combination of Henley et al. and Mahoney et al. to comprise an electrostatic chuck and a thermal control apparatus, as taught by Ishii et al. The motivation for including an electrostatic chuck, as taught by Ishii et al. (Column 5, Lines 39-42), would have been to allow the wafer to be held in place by a Coulomb force. The motivation for including a thermal control apparatus, as taught by Ishii et al. (Column 5, Lines 19-30), would have been to allow the target surface of the wafer to be processed to be cooled to a desired temperature.

In regards to Claims 19-21, the combination of Henley et al. and Mahoney et al. as applied to Claim 18 teaches an RF bias coupled to the workpiece support, but does not expressly teach the RF bias power frequency.

Ishii et al. teaches an inductively coupled plasma apparatus (Figure 1), comprising an RF bias generator 19 having an RF bias frequency of about 2 MHz coupled to a workpiece support pedestal 4. (Column 5, Line 56 - Column 6, Line 16)

It would have been obvious to one of ordinary skill in the art to modify the reactor taught by the combination of Henley et al. and Mahoney et al. to have an RF bias frequency of about 2 MHz coupled to the workpiece support pedestal. The motivation for including an RF bias generator with a frequency of about 2 MHz coupled to the workpiece support pedestal, as taught by Ishii et al. (Column 5, Lines 57-62), would have been to effectively emit the flow of the plasma onto the target surface of the workpiece.

The RF bias with a frequency of about 2 MHz coupled to the workpiece support pedestal taught by the combination of Henley et al., Mahoney et al., and Ishii et al. would inherently be capable of meeting the limitations of Claims 19-21, depending on the other process settings of the plasma reactor. This rejection is based on the fact the apparatus structure taught above has the inherent capability of being used in the manner intended by the Applicant. When a rejection is based on inherency, a rejection under 35 U.S.C. 102 or U.S.C. 103 is appropriate. (See *In re Fitzgerald* 205 USPQ 594 or MPEP 2112).

Double Patenting

8. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington,* 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

9. Claims 1-23 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-3, 7, 10, 26, and 27 of U.S. Patent No. 6,348,126; or alternatively over claims 1, 2, 9, 12, 15, and 18 of U.S. Patent No. 6,468,388; or alternatively over claim 1 of U.S. Patent No. 6,494,986; or

alternatively over claims 1, 2, and 4 of U.S. Patent No. 6,551,446; each in view of Henley et al., Miller et al., Smith et al., and Ishii et al.

The respective claims of U.S. Patent Nos. 6,348,126 ('126); 6,468,388 ('388); 6,494,986 ('986); and 6,551,446 ('466) each recite at least a plasma reactor having *at least* at a first hollow conduit outside of a chamber with respective ends connected to openings in the chamber ceiling, as recited in instant Claim 1.

The teachings of Henley et al., Miller et al., Smith et al., and Ishii et al. supply what each of the claims of '126, '388, '986, or '466 lack, as discussed in the rejections set forth above. It would have been obvious to one of ordinary skill in the art to respectively modify the teachings of the claims of '126, '388, '986, or '466 as taught by Henley et al., Miller et al., Smith et al., and Ishii et al. for the reasons set forth in the rejections above.

Specifically, it is noted that Henley et al. teaches a wafer transfer apparatus and a second process chamber of any of the types recited in the claims.

It would have been obvious to one of ordinary skill in the art to modify the apparatus taught by any of the respective claims of 126, '388, '986, or '466 to include a wafer transfer apparatus and any of the second process chambers taught by Henley et al. The motivation for doing so would have been to perform various types of pre- and post-processing on the ion implanted workpiece.

10. Claims 1-23 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 5-8, and 38-42 of copending Application No. 10/646,458; or alternatively over claims 1-3 of

copending Application No. 10/646,533; each in view of Henley et al., Miller et al., Smith et al., and Ishii et al.

The respective claims of U.S. Patent Application Nos. 10/646,458 ('458) and 10/646,533 ('533) each recite at least a plasma reactor having *at least* at a first hollow conduit outside of a chamber with respective ends connected to openings in the chamber ceiling, as recited in instant Claim 1. It is noted that while the claims of '533 recite a method, they recite the structural limitations of the instant claims, and thus render them obvious.

The teachings of Henley et al., Miller et al., Smith et al., and Ishii et al. supply what each of the claims of '458 and '533 lack, as discussed in the rejections set forth above. It would have been obvious to one of ordinary skill in the art to respectively modify the teachings of the claims of '458 and '533 as taught by Henley et al., Miller et al., Smith et al., and Ishii et al. for the reasons set forth in the rejections above.

Specifically, it is noted that Henley et al. teaches a wafer transfer apparatus and a second process chamber of any of the types recited in the claims.

It would have been obvious to one of ordinary skill in the art to modify the apparatus taught by any of the respective claims of 126, '388, '986, or '466 to include a wafer transfer apparatus and any of the second process chambers taught by Henley et al. The motivation for doing so would have been to perform various types of pre- and post-processing on the ion implanted workpiece.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Conclusion

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Maureen G. Arancibia whose telephone number is (571) 272-1219. The examiner can normally be reached on core hours of 10-5, Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Parviz Hassanzadeh can be reached on (571) 272-1435. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Maureen G. Arancibia
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